WARZYN

194

May 4, 1992

Mr. Wayde Hartwick, R.P.M.
U.S. EPA Region V
77 West Jackson Street
Mail Code HSRL-6J
Chicago, IL 60604

RE: Potential Contaminant Travel Time
American Chemical Services NPL Site
Warzyn Project No. 60251

Dear Mr. Hartwick:

During our recent telephone conversation, you requested an estimate of the potential travel time necessary for groundwater contaminants at the ACS NPL Site to reach the nearest off-site private wells. As you are aware, the RI/FS described in detail that there was no potential for groundwater contamination within the upper aquifer to reach nearby off-site private wells, based on the current groundwater flow conditions. Five groundwater flow paths were described in detail for the upper aquifer. Each of these flow paths either reaches a discharge point within the site boundaries (flow paths 1, 2, 3, and 4 on Figure 4-21, attached) or does not come into contact with source areas (flow path 5).

Based on this evaluation of upper aquifer groundwater flow conditions, the only potential impact to private wells is associated with contaminants traveling within the lower aquifer. During the remedial investigation, it was calculated that the groundwater velocity in the lower aquifer is in the range of 50 to 100 feet per year. Figure 4-13 (attached) in the RI Report illustrates groundwater flow within the lower aquifer, and the location of private wells near the site. If it were assumed that the Still Bottoms area (marked with an "X" on the Figure) was the source of groundwater contamination, the distance to the nearest private well (#65 on Figure 4-13, attached) is approximately 3000 feet. Assuming a groundwater flow rate of between 50 and 100 feet per year, groundwater will traverse the distance from the Still Bottoms area to the nearest well in 30 to 60 years. If it were also assumed that contaminant transport is completely conservative (no attenuation or retardation occurs), the contamination which potentially leaks from the Still Bottoms area into the lower aquifer would similarly require 30 to 60 years to traverse this distance. However, actual contaminant travel times would be longer than 30 to 60 years because organic compounds would be retarded and

THE PERFECT BALANCE
BETWEEN TECHNOLOGY
AND CREATIVITY

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435 DEVON PARK DRIVE
SUITE 702
WAYNE PA 19087
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attenuated. In any case, downgradient monitoring wells are located at the ACS property line which could detect a plume in the lower aquifer prior to the movement of that plume off-site towards the downgradient private wells.

If you have any questions regarding this calculation of travel time, please telephone me at 215-964-0808.

Sincerely,

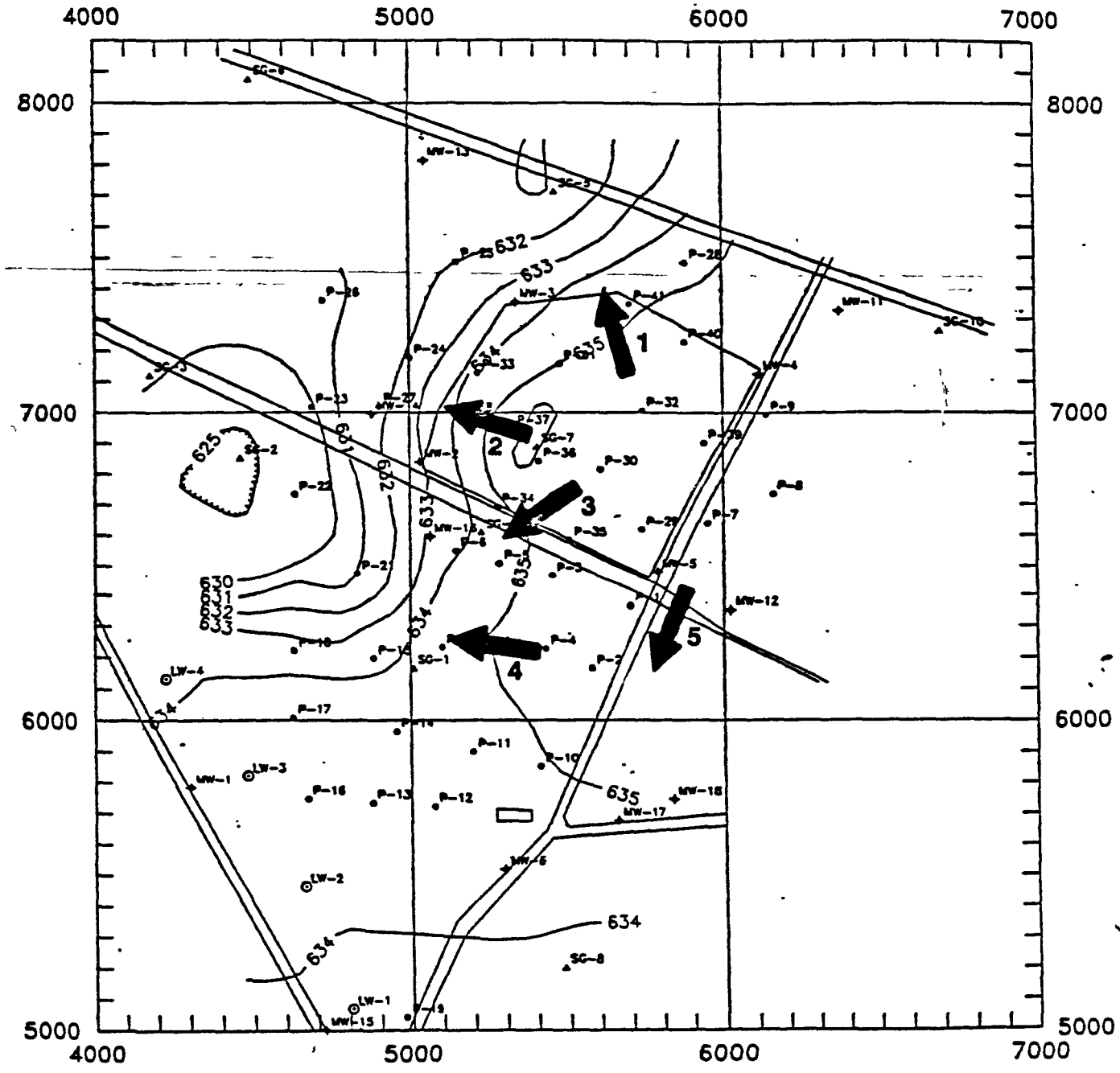
WARZYN INC.

Julie A. Widman
Senior Hydrogeologist

JAW/jaw/PJV
[phi-104a-99]
60251

Enclosures: As stated

cc: A. Perellis



LEGEND

- UPPER AQUIFER MONITORING WELL LOCATION
- LEACHATE WELL LOCATION
- PIEZOMETER LOCATION
- STAFF GAUGE LOCATION
- 1 GROUNDWATER FLOW PATH

NOTES

1. GROUNDWATER FLOW PATHS ARE DESCRIBED IN TABLE 4-5.

north

0 500 1000

SCALE IN FEET

FIGURE 4-21

WARZYN	UPPER AQUIFER GROUNDWATER FLOW PATHS	Drawn DLL, TJM, JAW.	Checked JAW	App'd. BVA
	REMEDIAL INVESTIGATION AMERICAN CHEMICAL SERVICES NPL SITE GRIFFITH, INDIANA	Revisions		Date 9/21/96
				60251 A11

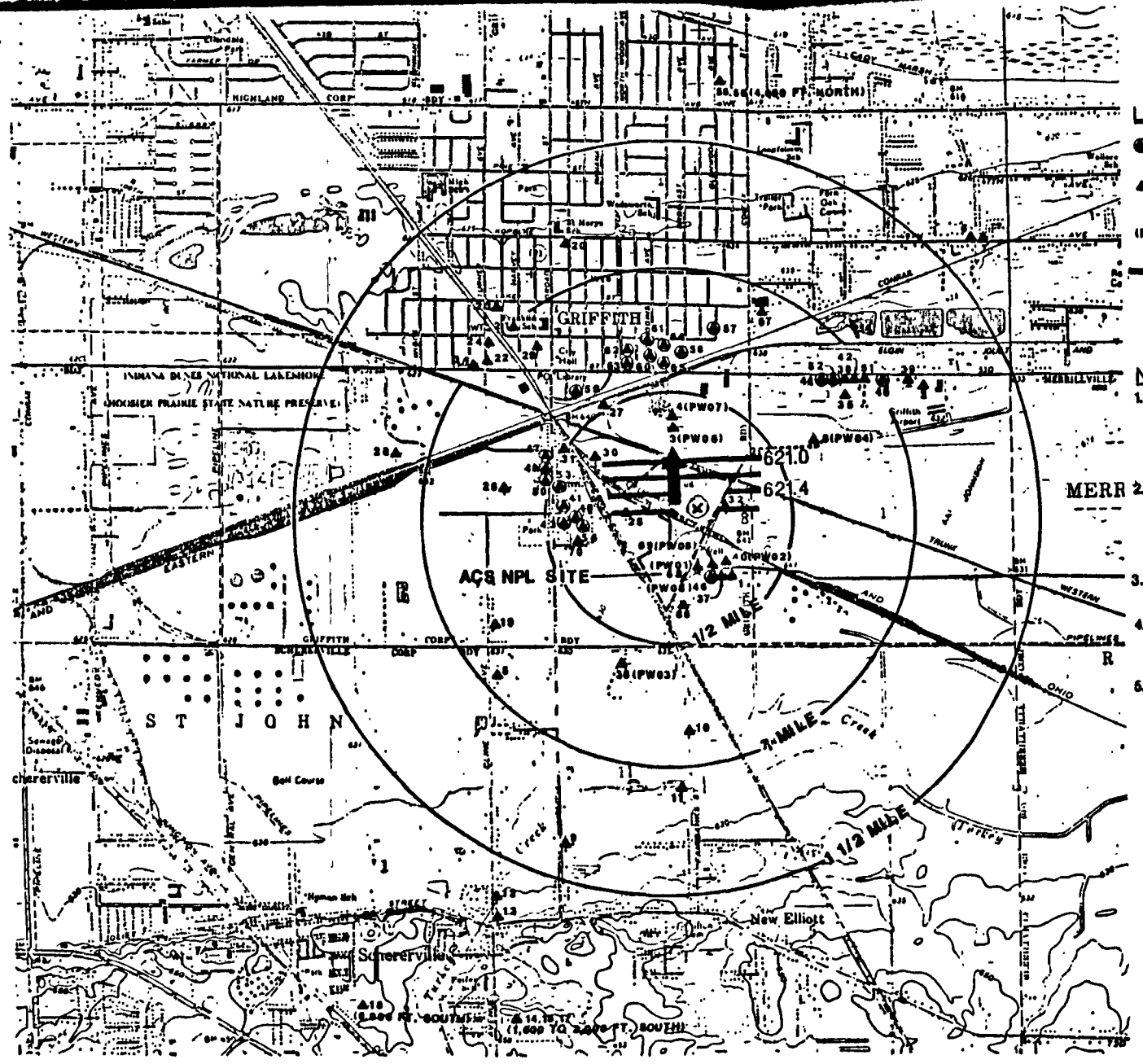

GRIFFITH
ACS NPL SITE
1/2 MILE
1 1/2 MILE
621.0
621.4
ST JOHN
Schererville
New Elliott
INDIANA DUNES NATIONAL LAKESHORE
CHESTER PRAIRIE STATE NATURE PRESERVE
MERR
WARZYN
LEGEND
UPPER AQUIFER PRIVATE WELL LOCATION
LOWER AQUIFER PRIVATE WELL LOCATION
(PW01) PRIVATE WELL SAMPLING LOCATION
POTENTIOMETRIC CONTOUR OF LOWER AQUIFER
GROUNDWATER FLOW DIRECTION IN LOWER AQUIFER
NOTES
1. BASE MAP DEVELOPED FROM HIGHLAND & ST. JOHN, INDIANA 7.5 MINUTE USGS TOPOGRAPHIC QUADRANGLE MAPS DATED 1968 AND 1962 RESPECTIVELY, PHOTOREVISED 1980.
2. PRIVATE WELL DATA WAS OBTAINED FROM THE INDIANA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER WELL LOGS, OR A USEPA SURVEY, OR A WARZYN DOOR TO DOOR SURVEY.
3. SUMMARY OF PRIVATE WELLS LOCATED ON THIS MAP IS INCLUDED IN TABLE 2-6.
4. INDIANA DEPARTMENT OF NATURAL RESOURCES WELL LOGS ARE INCLUDED IN APPENDIX L.
5. PRIVATE WELL SAMPLING WAS CONDUCTED BY WARZYN ENGINEERING INC. ON JUNE 13 & 14, 1990.
north
0 2000 4000
SCALE IN FEET
PRIVATE WELL LOCATION MAP ILLUSTRATING GROUNDWATER FLOW IN LOWER AQUIFER
REMEDIAL INVESTIGATION
AMERICAN CHEMICAL SERVICES
NPL SITE
GRIFFITH, INDIANA
60251 B18

FIGURE 4-13